

ASARCO

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December 10, 1997

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Remedial Project Manager
East Helena Site
U.S. Environmental Protection Agency
Region VIII, Montana Operations Office
Federal Building - Drawer 10096
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Helena, MT 59626-0026

Attorney: East Helena Site
DOJ Reference No. 90-11-2-563
U.S. Department of Justice
Environmental Enforcement Section
P.O. Box 7611
Ben Franklin Station
Washington, DC 20044

Ms. Denise Mills (3) copies
Attn: James Scott
Superfund Section, DEQ
2209 Phoenix Ave.
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CONSENT DECREE
PROCESS PONDS OPERABLE UNIT
EAST HELENA SUPERFUND SITE
PROGRESS REPORT #87, November 1997

Gentlemen:

On December 27, 1990, a Consent Decree ("Decree") executed by ASARCO Incorporated ("ASARCO"), the United States Environmental Protection Agency ("EPA"), and the United States Department of Justice was entered for the East Helena Superfund site. This Decree addresses remediation of the Process Ponds operable unit and required Asarco to perform the Work specified in the Record of Decision, issued on November 22, 1989, and the Comprehensive Remedial Design and Remedial Action Work Plan for the Process Ponds operable unit ("Work Plan"), both of which have been incorporated into the Decree. The Record of Decision was subsequently amended by an Explanation of Significant Differences on June 17, 1993, based on changes in RCRA requirements and site conditions.

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The dredging of Lower Lake sludges was completed on August 16, 1996. Since that time, the dredged material has resided in a stockpile at the short-term storage facility at the smelter, with 320 cubic yards of sludges being smelted from August 1996 through February 1997. Hydrometrics and Asarco have evaluated short-term and long-term storage alternatives for the Lower Lake Sludge Stockpile. These were submitted to EPA on February 3, 1997, in a document titled "Short-Term Storage Facility For Dredged Lower Lake Process Sludge and Marsh Deposits - Asarco Incorporated, East Helena Plant, East Helena, Montana". This report was prepared, in part, in response to a verbal request received from Scott Brown, EPA, during an October 16, 1996 meeting at Hydrometrics' East Helena office.

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Asarco evaluated soil treatment and has since replaced it with a plan to use a geomembrane cover over the stockpile. On September 24, 1997, Asarco submitted a work plan to EPA that describes the proposed plan to seal the stockpile, including: 1) earthwork to ensure the stockpile is properly contoured, 2) selection, installation, and anchoring of the geomembrane liner over the sediment pile, 3) building of a containment berm around the perimeter of the sediment pile, and 4) an operation and maintenance plan to ensure performance of the system. In an October 7, 1997, voice mail to Jon Nickel, Susan Zazzali indicated that she had no comment on the work plan.

Covering of the Lower Lake Sediment Stockpile commenced and was completed in October 1997. The work began with an excavator shaping (contouring) the pile to allow the geomembrane liner to lay on a smooth interface. The work then proceeded with the placement of 78,000 ft² of 20 mil PVC geomembrane and sealing of the seams. The base of the liner was anchored with a 4-foot berm of road mix which also prevents run-on from reaching the pile. The rest of the liner was anchored with sandbags.

The original long-term remedy for the sludges called for smelting them over a period of 12-15 years; however, during the course of dredging, it was discovered that there were significantly more sludges to be dredged than originally estimated. The increased volume of sludges, coupled with the fact that the concentrations of metals in the sludge were much lower than anticipated when the ROD was developed and the changing economic conditions of the smelter required that Asarco investigate the alternative remedy of an on-site landfill.

Based on observations made in early 1997, additional surface water runoff improvements were made to the west end of Lower Lake. These improvements consisted of the installation of 450 lineal feet of residential-type curb and gutter along the pavement edge and the placement of clean fill between the top of the curb and the lake. The fill was sloped from the lake shore to the curbing at a grade of 10 percent. The fill was then topsoiled and planted to grasses and shrubs. However, because of topsoil erosion adjacent to the curb, a three-foot wide strip of topsoil immediately behind the curb was removed and replaced with 1 1/2-inch crushed rock. In addition, a four-foot tall woven wire fence was installed at the juncture between the crushed rock and the vegetation. The fencing provides additional protection to the newly established vegetation. This work is considered part of the surface water run-off control plan described in the 90% design report for Lower Lake remediation. Runoff control enhancements to the west-end of Lower Lake are considered complete.

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B. A description and estimate of the percentage of the Work completed, and an evaluation of any progress toward meeting Remediation Levels set forth in the Decree:

Process Pond Operable Unit: Approximately 80%* of the work is completed.

- ° Replace Lower Lake with Tanks - Tank installation was 100% completed in 1989.
- ° Sealing of Concrete Pad to Accept Excavated Lower Lake Sludges and Sediments - Sealing of the pad was 100% completed in 1994.
- ° Process Water Treatment Facility - Asarco completed 100% of the originally scheduled construction work associated with the High Density Sludge (HDS) facility in 1994. Subsequent improvements to the HDS plant to improve effluent quality at the full 100 gpm rated capacity were completed in March 1997.
- ° Dredge Lower Lake Sediments - Asarco completed 100% of the work associated with dredging Lower Lake during August 1996.
- ° Removal of the Acid Plant Sediment Drying Pad and Underlying Soils (This area, located between Upper and Lower Lakes, was identified by the ESD) - EPA has allowed Asarco to defer cleanup of this area, pending a thorough evaluation by EPA of the area's groundwater and surface soil composition and EPA's evaluation of Asarco's interpretation of this data.
- ° In August 1996, Asarco, through Hydrometrics, collected soil samples from beneath the drying pad through five borings. Two additional borings were made in mid-September 1996 following the removal of equipment blocking access to the northeast portion of the pad. The purpose of the borings was to determine if arsenic and metals leachate concentrations (EPA Methods 1311 and 1312) are sufficiently low to defer excavation of soils from beneath the pad. Results of laboratory analyses of the five bore samples collected in August 1996 were presented to EPA. Laboratory results for soil borings made in mid-September 1996 were available in October 1996 and were presented to EPA at that time. Subsequently, the EPA and state concurred, through a transmittal letter dated November 29, 1996, that excavation of soils from beneath the pad would be deferred for a period of no less than six months from the date of the letter. Upon EPA's evaluation of the data, EPA will discuss their recommendation concerning the fate of the drying area.

* The stormwater collection and retention facilities plus in situ treatment of Lower Lake water are no longer considered components of the Process Ponds Operable Unit. Specifically, the HDS water treatment is being used to treat Lower Lake water instead of in situ treatment and the stormwater system is now considered more appropriately addressed under Montana's stormwater permit program.

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- Treatment of Lower Lake - Treatment through the HDS Water Treatment Plant. A joint study by Asarco and Hydrometrics was initiated in September 1995 to examine operational changes which would improve HDS plant effluent quality. Improvements to the HDS plant have been implemented which allow the effluent to meet or exceed MPDES interim permit limits. Design improvements are focused on MPDES permits and not on ROD limits. Engineering design of the improvements was completed in August 1996 and construction was initiated in October 1996. Construction was completed in mid-March 1997 and was followed by a 90-day startup period. The plant became fully operational in May 1997 and meets all interim MPDES permit limits at a 100 gpm design flow rate. At that time, bench and pilot scale studies were initiated to examine additional treatment steps necessary to meet final MPDES permit limits.

Final permit limits for lead, mercury and thallium are not consistently being met. The HDS plant process improvements will be optimized to meet the final limits for lead and mercury, and an additional treatment step is required to meet the thallium limit. A Final Permit Limits Work Plan was submitted to the Montana DEQ on August 29, 1997, and was approved by DEQ in early October. The work plan stipulates that the final MPDES permit limits for lead and mercury will be met by May 1998, and the final limit for thallium will be met by February 1999. The work plan for thallium includes a third pilot test and installation and start-up of a full-scale treatment system, both using zeolite packed beds.

- Construction of Storm Water Collection Facility - The stormwater system is addressed under Montana's stormwater permit program.
- Storage of Excavated Sludges and Sediments and Smelting in the Smelter Process - It is expected to require 12 to 15 years to smelt all excavated sludges and sediments associated with remedial activities at the smelter. Smelting of dredged materials was initiated in 1994 but, with EPA approval, may be discontinued. See Section F for additional discussion. As indicated during the August 24, 1995 meeting with EPA and Water Quality Division staff, Asarco is reconsidering other alternatives besides smelting because of the very large volume of material dredged.

The volume of stored sediments was 27,000 cubic yards, based on a resurvey of the pile after the August 1996 completion of dredging of Lower Lake. The volume of sediment smelted prior to the August 1996 survey was 3,960 cubic yards. The volume of sediment smelted from August 1996 - February 1997 was 320 cubic yards.

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Speiss Granulation Pond and Pit: Asarco completed 100% of the work associated with the Speiss Granulation Pond and Pit in 1995.

- ° **Pond -** Asarco has completed 100% of the work associated with the Speiss Granulation Pond.
- ° **Pit -** Asarco completed 100% of the work associated with the Speiss Granulating Pit during 1995. A project completion report was submitted to EPA during January 1996.

Acid Plant Water Reclamation Facility: Asarco completed 100% of the on-site construction in 1992. Asarco completed 100% of the demolition associated with the Acid Plant Water Treatment Settling Pond in 1993.

Former Thornock Lake: Asarco completed 100% of the work associated with former Thornock Lake in 1991.

- C. A description of any activities that deviated from or were carried out in addition to those provided for in the work plan, which occurred during the reporting period:**

See Section B, Treatment Of Lower Lake.

- D. Summaries of significant findings pertaining to the remedial design and remedial action during the reporting period:**

No significant findings pertaining to the remedial design and remedial action occurred during the reporting period.

- E. Summaries of all changes made in the remedial design or remedial action during the previous month:**

Asarco made no changes in the remedial design or remedial action during the previous month.

- F. A description of all unresolved problems or potential problems encountered during the reporting period that may cause a performance delay and a description of efforts made to mitigate those delays.**

The EPA's Water Management Division in Region VIII issued Asarco a 308 Order on March 14, 1995, asking for a detailed examination of the Plant's sanitary sewer system and the implementation of a continuous monitoring program. The continuous monitoring program required by EPA was concluded at the end of October 1995. The data collected showed the plant discharged neither excessive flows (typically 8 to 12 gpm) nor the large

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arsenic or metals loads obtained by EPA using data from the City of East Helena's monitoring station. Beginning in November 1995, Asarco initiated a voluntary program at the Manhole #31 monitoring station. This monitoring program consisted of continuous flow recordation and collection of flow-weighted composite samples three times per week.

Beginning November 6, 1996, weekly (7-day) flow proportional composite samples were collected at Manhole 31. However, on November 21, 1997, the Asarco East Helena Plant ceased discharging sanitary waste to the City of East Helena POTW by inserting a stop plug in the sanitary sewer line connecting the East Helena Plant to the City's sewer system. At this time, portable toilets were installed throughout the plant. The portable facilities will remain in use at the East Helena Plant until Asarco's own sewage treatment facility is on-line and fully operational. Effluent from the sewage treatment facility will be discharged to the East Helena Plant's plant water system. Monitoring equipment is still present and operational at Manhole 31 and will remain so until Asarco's sewer treatment plant is fully operational. Monitoring results will continue to be submitted to the City of East Helena and EPA on a monthly basis while monitoring equipment remains in Manhole 31.

Asarco has constructed improvements to the HDS water treatment plant. Any excess treatment capacity of the HDS plant will be used to treat Lower Lake water*. Results of HDS plant testing are submitted for EPA review on a regular, on-going basis. See Section B for additional discussion.

Remediation of the former acid plant sediment drying area between Upper and Lower Lakes has been deferred (see Section B).

The installation of a stormwater collection facility to contain Plant Site runoff associated with the 100-year, 24-hour event was originally scheduled to be completed at the end of 1995. However, Montana's stormwater runoff permit program is now considered the appropriate forum for addressing this concern.

Hydrometrics has evaluated practices to be implemented for the short-term storage of dredged sediments in the Lower Lake Sludge Stockpile. These were contained in the 30% and 90% design reports submitted to EPA in October 1993 and March 1994, respectively.

A recommended modification is discussed in a report titled "Short-Term Storage Facility for Dredged Lower Lake Process Sludge and Marsh Deposits, ASARCO Incorporated, East Helena Plant, East Helena, Montana." This report was submitted to EPA on February 3, 1997. Subsequent to this report, Asarco has modified proposed short-term storage to include the use of a geomembrane cover over the pile (see the next paragraph). The

* Effluent discharged from the East Helena Plant's new sewage treatment facility will decrease the excess capacity of the HDS plant by about 10 gpm.

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proposed fate of the dredged sediments is for permanent disposal in an on-site landfill instead of smelting. A proposal for the on-site landfill was submitted to EPA in December 1996. A revised proposal for the on-site landfill was submitted in May 1997.

On September 24, 1997, Asarco submitted a work plan to EPA that describes the proposed plan to seal the stockpile, including: 1) earthwork to ensure the stockpile is properly contoured, 2) selection, installation, and anchoring of the geomembrane liner over the sediment pile, 3) building of a containment berm around the perimeter of the sediment pile, and 4) an operation and maintenance plan to ensure performance of the system. In an October 7, 1997, voice mail to Jon Nickel, Susan Zazzali indicated that she had no comment on the work plan.

G. Change orders, nonconformance reports, claims made, and actions taken to rectify problems:

No change orders, nonconformance reports, claims made or actions were taken to rectify problems.

H. Changes in Project Coordinator or Contractors during the reporting period:

There were no changes in the Project Coordinator or prime contractor during the reporting period. Jay Spickelmier remains the Project Coordinator for CERCLA remediation at East Helena. Correspondence can be directed to:

Mr. Jay Spickelmier
CERCLA Manager
ASARCO Incorporated
2727 Airport Road
Helena, MT 59601
Ph. (406) 443-4150, Ext. 168

The alternate project coordinator who can receive communication for the project coordinator is Ron Askin. Correspondence can be directed to:

Mr. Ron Askin
Remediation Manager
Hydrometrics, Inc.
2727 Airport Road
Helena, MT 59601
Ph. (406) 443-4150, ext. 166

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I. Projected work for the next reporting period, including a schedule by week of design and construction activities for the next reporting period:

A revised proposal was submitted to EPA in May 1997 that proposed disposing of dredged sediments from Lower Lake in an on-site landfill instead of smelting them. Pursuant to that proposal, Asarco has proceeded with the preliminary design of the East Helena CAMU (landfill). If authorization is granted, construction could begin in 1998.

J. Copies of inspection logs and results of all sampling and tests, data validation packages and all other data (including invalidating and validated analytical data on Contract Laboratory Program Form I's or in a similar format), as defined in the Quality Assurance Project Plan (QAPP), received or produced by Asarco during the course of Work during the previous month.

On-going sample collection and analyses associated with the HDS Water Treatment Plant and Manhole 31 will be submitted to EPA under separate reports.

I certify that information contained in or accompanying this submission is true, accurate and complete. As to those identified portions of this submission for which I cannot personally verify their truth and accuracy, I certify as the company official having supervisory responsibility for the persons who, acting under my direct instructions, made the verification, that this information is true, accurate and complete.

Sincerely,



Jay A. Spickelmier
CERCLA Manager